

[0047] Flexible strip 300 is an elastomer strip of material that includes an upper surface 305, a lower surface 307, and one or more cavities 320. Although elastomer is preferable, flexible strip 300 can be composed of any resilient material. Preferably, flexible strip 300 is a continuous strip of material that extends around at least one side of display 110. However, flexible strip 300 may be sectioned (i.e., non-continuous) as appropriate in the user environment to satisfy design requirements.

[0048] Upper surface 305 is a surface of flexible strip 300 that is exposed to a user as illustrated in FIG. 1. Preferably, upper surface 305 is smooth, however, it may include protrusions to allow users to locate certain areas on active edge input device 120 by touch alone. The smoothness of upper surface 305 allows users to drag their finger or other instrument along flexible strip 300 in a sweeping motion. This motion, for example, may be used to implement a scrolling function which allows a user to scroll through information on display 110.

[0049] Lower surface 307 includes a resistive plate 310 that is responsive to a human touch. Preferably, resistive plate 310 extends along lower surface 307 as a continuous strip of conductive material. However, resistive plate 310 may have separate and distinct sections that are positioned along lower surface 307. Resistive plate 310 may comprise resistive material currently used in conventional touch-screen devices.

[0050] Attached to resistive plate 310 are one or more protrusions 308 that extend outward and include extensions 309. The face of extensions 309 include input device electrical contacts 330 fixed thereon, as illustrated in FIG. 3a. These electrical contacts are “puck-shaped” and are formed from an electrically conductive material (e.g., carbon).

[0051] Body surface 350 includes body electrical contacts 340 which are fixed thereon. These electrical contacts are also composed of an electrically conductive material (e.g., carbon) and are aligned with input device electrical contacts 330. A gap exists between the electrical contacts on body surface 350 and the electrical contacts on extensions 309 while active edge input device 120 is at rest.

[0052] Cavities 320 are formed in an area of flexible strip 300 adjacent each protrusion 308. Preferably, each of cavities 320 are formed in an image of protrusions 308 and extensions 309, as illustrated in FIG. 3a, but may have any shape. Cavities 320 are designed to collapse when a pressure is applied and return to its original shape when the pressure is released. Thus, cavities 320 provide a “soft button” effect when a pressure is applied thereto by a user. The deformation of cavities 320 under pressure is illustrated in FIGS. 3b and 3c.

[0053] FIG. 3b illustrates a cross-sectional view of a touch applied to active edge input device 120 consistent with a second embodiment of the present invention. This figure shows the first step of the “two-step” functionality described herein. In this instance, a voltage is applied to resistive plate 310 during operation of the host device. When a human touches upper surface 305 of flexible strip 300 (e.g., on area 360), a change in voltage is detected and a first signal is generated. Processor 130 receives the first signal and responds by implementing user interface software 160. A discussion of how processor 130 implements user interface

software 160 is described with respect to FIGS. 4-6. Although FIG. 3b illustrates deformation of flexible strip 300 in the area where a touch is applied, active edge input device 120 can be configured to simply sense a human touch without requiring the application of pressure to flexible strip 300. In this instance, resistive plate 310 simply detects the presence of a human touch on area 360 and does not require any deformation of flexible strip 300.

[0054] FIG. 3c illustrates a cross-sectional view of a pressure applied to active edge input device 120 consistent with a second embodiment of the present invention. This figure shows the second step of the “two-step” functionality described herein. In this instance, the first pressure shown in FIG. 3b is increased to a second pressure (e.g., a “press”) on area 370 of flexible strip 300 until input device electrical contact 330 makes contact with body electrical contact 340. The second pressure deforms flexible strip 300 including resistive plate 310 and cavity 320. The connection of the electrical contacts generates a second signal to processor 130 which is processed accordingly by implementing user interface software 160.

[0055] FIGS. 4a-4b illustrate the operation of selecting an item illustrated on a display using an active edge input device consistent with the present invention. Specifically, the operation of display 400, active edge input devices 420 and 430, and user interface software 160 (of FIG. 1) is discussed with reference to FIGS. 4a-4b. Active edge input devices consistent with the present invention are dynamically configurable such that different functions can be associated with each selectable area of the input device depending on the user environment.

[0056] FIGS. 4a and 4b illustrate a mode of operation for an active edge user interface consistent with the present invention. The user environment illustrated in these figures includes a notebook computer with an active edge user interface. The notebook computer includes a display 400 and active edge input devices 420 and 430 located on the right and left sides of display 400, respectively. Active edge input devices 420 and 430 may include the design of FIGS. 2a-2c or 3a-3c. In either case, the user can enter information into the notebook computer using active edge input devices 420 and 430.

[0057] Initially, information stored in data storage 150 or a peripheral device is generated on display 400. As shown in FIG. 4a, this information relates to fashion and includes a main category “clothing” displayed on the left side of display 400 and a plurality of sub-categories including “shoes, socks, shirts, pants, jackets, scarfs, and hats” displayed on the right side of display 400. In operation, a user can touch or press an area of active edge input device 420 to highlight a sub-category adjacent thereto. In addition, users can drag their finger down or up active edge user input device 420 to scroll through the sub-categories. As illustrated in FIG. 4a, the sub-category “shirts” is highlighted as a result of a touch or press on an adjacent area of active edge input device 420. A sub-category, or any data displayed and selected using embodiments consistent with the present invention, can be highlighted in many different ways. For example, the selected data can change colors, expand, contract, flash, or be affected in any manner that indicates it has been selected by a user via active edge input device 420.

[0058] The touch or press on active edge input device 420 corresponding to the selection of the “shirts” sub-category